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## **Buildings Powered by the Sun**

By:

Kate Zocchetti

The demand for solar technology is on the rise. A recent report from the California Energy Commission indicates that more than 50 percent of California homeowners surveyed would pay more for a home already equipped with a solar or wind energy system. Homebuilders are incorporating solar photovoltaics (PV) into new construction and commercial property owners are increasingly adopting solar energy systems to manage energy demands and help offset the rising electricity costs. So, what are the financial and environmental benefits of using the power of the sun?

Lower monthly electric bills are possible with the combination of your own on-site generation and net metering. Net metering allows solar home and business owners to receive fair market value for the excess electricity their PV system produces. When a customer's system generates more power than is needed, electricity is sent to the transmission grid, and the electric meter spins in reverse. Plus, feeding electricity to the grid helps provide power to all Californians, and reduces the likelihood of blackouts.

The pollution created by commercial buildings is substantial: more than one-third of all air pollution created in the United States comes from energy consumed by our buildings. Using renewable sources will help keep our air clean and lessen our dependence on fossil fuels. According to the Department of Energy, the sun could theoretically generate all of California's daytime electricity if every available commercial and industrial roof was covered with PV panels.

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In an effort to achieve an environmentally friendly image and fight pollution, many real estate and commercial building owners are taking a long-term view on electricity reliability and global climate change. Some of the most exciting applications are occurring right in the center of many popular urban cities. In Southern California, Arden Realty's City Centre is equipped with more than 240 kilowatts of solar PV on the roof space, making it one of the largest private installations in the western hemisphere. According to Victor J. Coleman, president of Arden Realty and City Centre owner, their goals were to install equipment that increased the reliability of power systems to tenants and to reduce the environmental impacts of electricity generation.

Even national homebuilders are seeing the value and benefits of constructing new homes with solar PV systems. Clarum Homes, Premier Homes and Standard Pacific Homes will make solar electric power available in several new California communities. Every home in Clarum's new Vista Montana community in Watsonville and their new Shorebreeze IV community in East Palo Alto, along with every home in Standard Pacific Homes' Maravu community in San Diego will come standard with a solar electric system. These systems will enable homeowners to reduce their energy consumption by up to 60 percent. Premier Homes' Premier Point II community in Lincoln, California will also have solar electric power systems available, with the goal of building 250 solar powered homes by 2003.

Barbara Zeidman, director of the Los Angeles Partnership Office for Fannie Mae, cites the Village Green development in Sylmar as an example of how cost-effective renewable systems can be. Village Green, built in partnership with Fannie Mae, is a 116-home, energy-efficient development that uses solar photovoltaic panels in addition to other energy-efficient technologies. According to Zeidman, the average Village Green resident pays \$20 per month in utility bills compared to the average bill of \$200 per month for other Sylmar residents. She attributes the savings to the energy-efficient development, featuring solar photovoltaic cells in the roofing system combined with other energy-saving technologies. "In Village Green, resale values have gone up and the residents' reduced monthly bills are proof that these types of systems make a genuine difference to their pocketbooks," says Zeidman.

Need further convincing that solar is the new trend on the builder scene? Consider this – at the Pacific Coast Builder's Conference (PCBC) in San Francisco this past June, attendees voted a solar-powered roofing laminate called Sunslates, by Atlantis Energy Systems, the "coolest" new product exhibited. Sunslates are PV modules that can be integrated with building materials to serve as a significant part of the rooftop as well as an electricity producer.

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Even with major financial and environmental benefits, the prospect of owning and maintaining a PV system could be daunting for some. Chances are that realtors may be in the unique position to help close a deal by reassuring potential buyers of the ease of owning a solar electric system. The reality is that solar photovoltaic systems require very little maintenance and boast a 15-25 year manufacturer warranty. It is important however to keep the panels clean as dust can impede efficiency and reduce electrical output. Consumers ready to install a system can take advantage of rebates available through the California Energy Commission that provide \$4,500 per kilowatt (kW), or up to 50 percent of the cost of an installed system, whichever is less. To date, more than 2,700 rebates have been issued and more than \$10 million in rebates is still available. These funds are raised by the Public Goods charge on the utility bills of California's major investor-owned utilities, and are available on a first-come, first serve basis. Rebates are also available for customers of publicly owned utilities like Los Angeles Department of Water and Power and the Sacramento Municipal Utility District.

Considering the current trend of some of the nation's largest homebuilders, the interest of the commercial market and the results from the California Energy Commission study, the future looks very bright for PV installations on both homes and commercial properties.

For more information on all renewable energy systems, rebate applications, equipment certification, or a list of retailers and installers, visit [www.consumerenergycenter.org](http://www.consumerenergycenter.org) or call 800-555-7794.

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*Kate Zocchetti is an Energy Specialist for the California Energy Commission's Renewable Energy Program.*

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